

ORDINANCE # 931

1 AN ORDINANCE relating to and regulating sewage disposal
2 systems, providing for Certificates of Competency for
3 Sewage Disposal System Designers and Sewage Disposal
4 System Installers, requiring permits, defining offenses,
providing penalties and amending Resolution No. 22873.

5 BE IT ORDAINED BY THE COUNCIL OF KING COUNTY:

6 Section 1. DEFINITIONS. Certain words and phrases in this ordi-
7 nance, unless otherwise clearly indicated by their context, shall mean as follows:

8 APPROVED. Approved in writing by the Director of Public Health.

9 DIRECTOR OF PUBLIC HEALTH: The Director of the Seattle-King County
10 Department of Public Health or his authorized representative.

11 SANITARY DRAINAGE SYSTEM. The piping which conveys sewage from plumb-
12 ing fixtures to a public sewer or private sewage disposal system.

13 SEWAGE. Any liquid or liquid-borne waste from the ordinary living pro-
14 cesses, or liquid or liquid-borne waste which contains animal or vegetable matter
15 in suspension or solution, or liquid or liquid-borne waste which may contain
16 chemical in solution, and which may be lawfully discharged into a public sani-
17 tary sewer.

18 SEWAGE DISPOSAL SYSTEM. Sanitary drainage systems, septic tanks,
19 leaching pits, surface and sub-surface leaching filter beds, and appurtenances;
20 or other approved facilities for the disposal of sewage by means other than
21 through a public sewer.

22 REPAIR. The replacement, addition, or alteration of a septic tank,
23 distribution box, tight line, or other appurtenances to an existing individual
24 sewage disposal system, and including any replacement, addition, or alteration
25 to a sub-surface disposal field where at least a portion of the original sub-
26 surface disposal field is used.

27 RESIDENT OWNER OR INTENDED RESIDENT OWNER. A person who constructs not
28 more than one residence in any one year for his own occupancy.

29 Section 2. Enforcement: The Director of Public Health shall enforce
30 this ordinance; he may adopt rules and regulations consistent with this ordi-
31 nance, and he may enter any building or premises at any reasonable time to per-
32 form any of the duties imposed on him by this ordinance.

1 Section 3. Retroactivity: This ordinance shall not apply to any work
2 on a sewage disposal system for which a permit had been issued by the Director of
3 Public Health, and which permit was valid and existing at the time of adoption of
4 this ordinance, but any such work shall be subject to applicable resolutions
5 existing at the time such permit was issued.

6 Section 4. Designers Certificate:

7 1. It is unlawful to engage in business as a Sewage Disposal System
8 Designer without a currently valid Sewage Disposal System Designers Certificate
9 of Competency, as provided for in this ordinance, or a currently valid State of
10 Washington Sanitary or Civil Engineers license.

11 2. The fee for a Sewage Disposal System Designer's Certificate of
12 Competency shall be fifty dollars (\$50.00) per year.

13 3. The fee for the Sewage Disposal System Designers' examination shall
14 be twenty-five dollars (\$25.00) payable in advance and not refundable. Separate,
15 special examinations shall be given to those licensed designers desiring to
16 design dosing systems or plats. The fees for these examinations shall be ten
17 dollars (\$10.00) each, payable in advance and not refundable.

18 4. The Director of Public Health may suspend or revoke any Sewage
19 Disposal System Designers Certificate of Competency if, after a hearing, he shall
20 find incompetency, negligence, misrepresentation, or failure to comply with this
21 ordinance or the rules and regulations of the Director of Public Health adopted
22 pursuant to this ordinance.

23 5. Sewage Disposal System Designers Certificates of Competency shall
24 expire December 31 of each year.

25 Section 5. Installers Certificate:

26 1. It is unlawful to engage in business as a Sewage Disposal System
27 Installer without a currently valid Sewage Disposal System Installers Certificate
28 of Competency.

29 2. The fee for a Sewage Disposal System Installers Certificate of Com-
30 petency shall be one hundred dollars (\$100.00) per year.

31 3. Prior to the issuance of a commercial installers Certificate of
32 Competency, the applicant must provide a surety bond approved as to form by the

1 King County Prosecuting Attorney in the sum of One Thousand Dollars (\$1,000.00)
2 running to King County, Washington, executed by a surety company authorized to
3 do business in the State of Washington. The bond shall be conditioned that the
4 holder of the Certificate of Competency and his agents in performing work gov-
5 erned by the ordinance shall exercise all reasonable care and skill and shall
6 fully comply with all provisions of this ordinance pertaining to sewage disposal.

7 4. Application for a Sewage Disposal System Installers Certificate of
8 Competency shall be made to the Director of Public Health, who may examine the
9 applicant, and may deny the application if in his judgement the applicant is not
10 qualified to install sewage disposal systems.

11 5. The Director of Public Health may suspend or revoke any Sewage
12 Disposal System Installers Certificate of Competency if, after a hearing, he
13 shall find incompetency, negligence, misrepresentation, or failure to comply
14 with this ordinance or the rules and regulations of the director of Public
15 Health adopted pursuant to this ordinance.

16 6. Sewage Disposal System Installers Certificates of Competency shall
17 expire December 31 of each year.

18 Section 6. Permits:

19 1. It is unlawful to construct, install, repair or alter a sewage
20 disposal system without a sewage disposal system permit. Such permit shall be
21 posted on the building or premises where the work permitted is being done, be-
22 fore the work is begun, and unless revoked, shall not be removed until such work
23 has been finally approved by the Director of Public Health.

24 2. The fee for a sewage disposal system permit shall be fifteen
25 dollars (\$15.00) for such system serving a single family residence, or twenty-
26 five dollars (\$25.00) for any other such system.

27 3. Application for a sewage disposal system permit shall be made to
28 the Director of Public Health, who may deny the application if in his judgement
29 the physical features of property on which it is proposed to locate the sewage
30 disposal system, or the design of the proposed sewage disposal system, are not
31 adequate for safe operation of such system.

32 4. Application for a sewage disposal system permit shall be supported

1 by the following:

- 2 (a) A completely dimensioned plot plan, drawn to scale, showing direc-
3 tion of surface drainage, approximate slope, and other topograph-
4 ical features relevant to the design and installation of an ade-
5 quate and efficient sewage disposal system.
- 6 (b) Construction plans and specifications.
- 7 (c) A log of soil formation and ground water level as determined by
8 test holes in the proposed disposal field.
- 9 (d) A statement of absorption characteristics of the soil as deter-
10 mined by percolation tests made in the proposed disposal field.
- 11 (e) Such other information as the Director of Public Health may
12 require.

13 Provided, however, that Paragraph 4, Items (a), (b), (c), and (d), are
14 not applicable when application is made for a sewage disposal permit for repairs
15 to an existing system.

16 5. Sewage disposal system permits shall expire one year from date of
17 issue.

18 Section 7. Where Required: Every plumbing fixture and every sanitary
19 drainage system not connected to a public sewer, or not required by law to be
20 connected to a public sewer, shall be connected to a private sewage disposal
21 system.

22 Section 8. Location: Sewage Disposal Systems shall be located on the
23 same lot as the buildings they are designed to serve, or, if an easement there-
24 for is obtained and recorded, on other property if approved by the Director of
25 Public Health.

26 Section 9. Design:

27 1. Sewage disposal systems shall be designed by a Sewage Disposal
28 System Designer, certificated as provided in this ordinance, or by a Sanitary
29 or Civil Engineer licensed by the State of Washington, except that a resident
30 owner, or intended resident owner may personally design a system for his own
31 single family residence, provided he designs not more than one system in any
32 one calendar year. The fee for plan review of the design shall be \$10.00.

1 2. Design of sewage disposal systems shall be such as to accommodate
2 all sewage from the buildings and premises to be served, and in accordance with
3 this ordinance and the rules and regulations of the Director of Public Health
4 adopted pursuant to this ordinance. The type of system shall be determined by
5 location, soil porosity, ground water level and other relevant conditions.

6 Section 10 Construction Installation Or Repair:

7 1. Sewage disposal systems shall be constructed, installed or repaired
8 only by a Sewage Disposal System Installer, certificated as provided in this
9 ordinance, except that a resident owner, or intended resident owner may person-
10 ally construct, install or repair a system for his own single family residence,
11 provided he constructs not more than one system in any one calendar year.

12 2. Construction, installation or repair of sewage disposal systems
13 shall be such as to accommodate all sewage from the buildings and premises to
14 be served, and in accordance with this ordinance and the rules and regulations
15 of the Director of Public Health adopted pursuant to this ordinance. No down-
16 spout or footing drain shall be directly or indirectly connected to a sewage
17 disposal system, and sewage disposal systems shall be so constructed and in-
18 stalled that surface water or ground water will not interfere with the operation
19 of such system.

20 Section 11. Inspection:

21 1. Any work done on a sewage disposal system, and any material used,
22 may be inspected by the Director of Public Health at any reasonable time, and
23 if he shall find that any work done, or material used, is not in accordance with
24 this ordinance or with the rules and regulations of the Director of Public Health
25 adopted pursuant to this ordinance he may revoke the permit for the work, or he
26 may notify the owner or installer to make such changes in the work as he shall
27 specify, and if such changes are not made within a reasonable time, the Director
28 of Public Health shall then revoke the permit and it shall be unlawful to use
29 such sewage disposal system.

30 2. When the work of constructing or installing a sewage disposal
31 system has been otherwise completed, it shall be left open and uncovered, and
32 the owner shall be notified and he shall cause an inspection of such work and

1 such system to be made by a designer. When the work of repairing a sewage
2 disposal system has been completed under a waiver of design as provided for in
3 Section 6.4, it shall be left open and uncovered and the owner shall be notified
4 and he shall call for an inspection of such work and such system to be made by
5 the Director of Public Health.

6 3. If upon inspection by him following work on a sewage disposal
7 system, a designer shall find that such work or system is not in accordance with
8 this ordinance, he shall so notify the owner who shall cause such changes in
9 the work as are specified by the designer, and shall then again notify a de-
10 signer that such work is ready for inspection.

11 4. When upon inspection by him following work on a sewage disposal
12 system, a designer shall find that such work and system are in accordance with
13 this ordinance, he shall so certify to the Director of Public Health, and shall
14 submit to the Director of Public Health with such certification, a detailed
15 "as-built" drawing of such system.

16 Section 12. Approval:

17 1. Within a reasonable time after receipt of certification by a de-
18 signer that work done on a private sewage disposal system, and such system,
19 is in accordance with this ordinance, the Director of Public Health shall
20 approve or disapprove thereof.

21 2. If the Director of Public Health shall disapprove such work or
22 system, he shall so notify the owner, stating his reasons for such disapproval,
23 and it shall then be unlawful to use such system.

24 3. If the Director of Public Health shall finally approve such work
25 and such system, he shall so notify the owner, and then such work shall be
26 covered, and such system may be used.

27 Section 13. Maintenance: Sewage disposal systems shall be maintained
28 in accordance with this ordinance and the rules and regulations of the Director
29 of Public Health adopted pursuant to this ordinance, and no sewage disposal
30 system shall be used which directly or indirectly discharges upon the surface
31 of the ground or into any waters within the County unless the contents of such
32 system have been subjected to approved purification and bactericidal treatment.

Section 14. Penalty: Anyone violating or failing to comply with this ordinance, or any lawful rule of the Director of Public Health pursuant thereto, upon conviction thereof, shall be punished by a fine of not more than two hundred fifty dollars (\$250.00), or by imprisonment for not more than ninety (90) days, or by both such fine and imprisonment, and each day that anyone shall continue to violate or fail to comply with this ordinance shall be a separate offense.

Section 15. Severability: Should any part of this ordinance be declared unconstitutional or invalid for any reason, such declaration shall not affect the validity of the remainder.


Section 16. Effective Date: This ordinance shall be in full force and effect on and after same day.

PASSED by the Council at a regular meeting thereof on
the 16th day of August, 19 71


KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Robert B. Korman
Chairman

ATTEST:


Clerk of the Council

APPROVED this 17th day of August, 1971


King County Executive

22873
RESOLUTION NO. _____

A Resolution relating to and regulating sewage disposal systems, providing for Certificates of Competency for Sewage Disposal System Designers and Sewage Disposal System Installers, requiring permits, defining offenses and providing penalties.

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF KING, STATE OF WASHINGTON:

Section 1. Definitions: Certain words and phrases used in this ordinance, unless otherwise clearly indicated by their context, shall mean as follows:

APPROVED: Approved in writing by the Director of Public Health for King County.

SANITARY DRAINAGE SYSTEM: The piping which conveys sewage from plumbing fixtures to a public sewer or private sewage disposal system.

SEWAGE: Any liquid or liquid borne waste from the ordinary living processes, or liquid or liquid borne waste which contains animal or vegetable matter in suspension or solution, or liquid or liquid borne waste which may contain chemical in solution, and which may be lawfully discharged into a public sanitary sewer.

SEWAGE DISPOSAL SYSTEM: Sanitary drainage systems, septic tanks, leaching pits, surface and sub-surface leaching filter beds, and appurtenances; or other approved facilities for the disposal of sewage by means other than through a public sewer.

Section 2. Enforcement: The Director of Public Health shall enforce this resolution; he may adopt rules and regulations consistent with this resolution, and he may enter any building or premises at any reasonable time to perform any of the duties imposed on him by this resolution.

Section 3. Retroactivity: This resolution shall not apply to any work on a sewage disposal system for which a permit had been issued by the Director of Public Health, and which permit was valid and existing at the time of adoption of this resolution, but any such work shall be subject to applicable resolutions existing at the time such permit was issued.

4. Application for a Certificate of Competency shall be made to the Director of Public Health, who may or may not accept, and may deny the application if he is satisfied the applicant is not qualified

Section 4. Designers Certificate.

1. It is unlawful to engage in business as a Sewage Disposal System Designer without a Sewage Disposal System Designers Certificate of Competency, as provided for in this resolution, or a State of Washington Sanitary or Civil Engineers License.

2. The fee for a Sewage Disposal System Designers Certificate of Competency shall be Twenty-Five Dollars (\$25.00) per year.

3. Application for a Sewage Disposal System Designers Certificate of Competency shall be made to the Director of Public Health, who may examine the applicant, and may deny the application if, in his judgment, the applicant is not qualified to design sewage disposal systems.

4. The Director of Public Health may suspend or revoke any Sewage Disposal System Designers Certificate of Competency if, after a hearing, he shall find incompetency, negligence, misrepresentation, or failure to comply with this resolution or the rules and regulations of the Director of Public Health adopted pursuant to this resolution.

5. Sewage Disposal System Designers Certificates of Competency shall expire December 31 of each year.

Section 5. Installers Certificate.

1. It is unlawful to engage in business as a Sewage Disposal System Installer without a Sewage Disposal System Installers Certificate of Competency.

2. The fee for a Sewage Disposal System Installers Certificate of Competency shall be Seventy-Five Dollars (\$75.00) per year.

3. Prior to the issuance of a commercial installers Certificate of Competency, the applicant must provide a surety bond approved as to form by the King County Prosecuting Attorney in the sum of One Thousand Dollars (\$1,000) running to King County, Washington, executed by a surety company authorized to do business in the State of Washington. The bond shall be conditioned that the holder of the Certificate of Competency and his agents in performing work governed by the resolution shall exercise all reasonable care and skill and shall fully comply with all provisions of this resolution to sewage disposal.

4. Application for a Sewage Disposal System Installers Certificate of Competency shall be made to the Director of Public Health, who may examine the applicant, and may deny the application if in his judgment the applicant is not qualified

2. The Director of Public Health may suspend or revoke any license

to install sewage disposal systems.

(e) Such other information as the Director of Public Health may require.

Provided, however, that Paragraph 4, Items (a), (b), (c), and (d) are not applicable when application is made for a sewage disposal permit for repairs to an existing system.

5. Sewage disposal system permits shall expire one year from date of issue.

Section 7. Where Required. Every plumbing fixture and every sanitary drainage system not connected to a public sewer, or not required by law to be connected to a public sewer, shall be connected to a private sewage disposal system.

Section 8. Location. Sewage Disposal systems shall be located on the same lot as the buildings they are designed to serve, or, if an easement therefor is obtained and recorded, on adjoining property if approved by the Director of Public Health.

Section 9. Design.

1. Sewage disposal systems shall be designed by a Sewage Disposal System Designer, certificated as provided in this resolution, or by a Sanitary or Civil Engineer licensed by the State of Washington, except that a resident, or intended

resident owner may personally design a system for his own single family residence.

2. Design of sewage disposal systems shall be such as to accommodate all sewage from the buildings and premises to be served, and in accordance with this resolution and the rules and regulations of the Director of Public Health adopted pursuant to this resolution. The type of system shall be determined by location,

soil porosity, ground water level and other relevant conditions.

Section 10. Installation and Alteration.

1. Sewage disposal systems shall be constructed, installed or altered only by a Sewage Disposal System Installer, certificated as provided in this resolution,

except that a resident, or intended resident owner may personally construct, install or alter a system for his own single family residence.

2. Construction, installation or alteration of sewage disposal systems shall be such as to accommodate all sewage from the buildings and premises to be

2. If the Director of Public Health shall disapprove such work or system, he shall so notify the owner, stating his reasons for such disapproval, and it shall then be unlawful to use such system.

3. If the Director of Public Health shall finally approve such work and such system, he shall so notify the owner, and then such work shall be covered, and such system may be used.

Section 13. Maintenance. Sewage disposal systems shall be maintained in accordance with this resolution and the rules and regulations of the Director of Public Health adopted pursuant to this resolution, and no sewage disposal system shall be used which directly or indirectly discharges upon the surface of the ground or into any waters within the County unless the contents of such system have been subjected to approved purification and bactericidal treatment.

Section 14. Penalty. Anyone violating or failing to comply with this resolution, or any lawful rule of the Director of Public Health pursuant thereto, upon conviction thereof, shall be punished by a fine of not more than Three Hundred Dollars (\$300.00), or by imprisonment for not more than ninety (90) days, or by both such fine and imprisonment, and each day that anyone shall continue to violate or fail to comply with this resolution shall be a separate offense.

Section 15. Severability. Should any part of this resolution be declared unconstitutional or invalid for any reason, such declaration shall not affect the validity of the remainder.

Section 16. Repeal. Resolution No. 16801 relating to sewage disposal systems, as last amended by Resolutions No. 16992 and No. 19439, is hereby repealed.

Section 17. Effective Date. This Resolution shall be in full force and effect on and after same day. Passed this 17th day of July, 1961.

BOARD OF COUNTY COMMISSIONERS
KING COUNTY, WASHINGTON

Howard Odell
Howard Odell, Chairman

Ed Munro
Ed Munro

Scott Wallace

ATTEST:
Robert A. Morris, Clerk of the Board

By: Ralph R. Bender

Deputy

SEATTLE-KING COUNTY DEPARTMENT OF PUBLIC HEALTH
RULES AND REGULATIONS FOR CONSTRUCTION AND INSTALLATION
OF SEWAGE DISPOSAL SYSTEMS
AUTHORIZED BY KING COUNTY ORDINANCE #931
REVISED SEPTEMBER, 1972

SECTION 1. BUILDING SEWER.

- A. Pipe used for construction for a building sewer beyond the building plumbing shall be a minimum of four inches inside diameter and of cast-iron, vitrified-clay, concrete or plastic which complies with the current U.S. Department of Commerce Commercial Standards for the particular pipe involved or of asbestos-cement or plastic approved by the Seattle-King County Department of Public Health.
- B. Construction of the building sewer line shall be such as to secure water-tight joints and it shall be on a grade of not less than 1/8 inch per foot.
- C. No T's or 90-degree ells shall be permitted in the building sewer line and all 45-degree ells shall have accessible cleanouts.
- D. Building sewers of 4-inch diameter shall have cleanouts installed at intervals of not more than 50 feet and sewers of 6-inch diameter and larger shall have cleanouts installed at intervals of not more than 100 feet.

SECTION 2. SEPTIC TANK.

- A. Before septic tanks or grease traps may be manufactured, constructed or sold on a commercial basis for installation in areas under the jurisdiction of the department, plans must be submitted and approved by the Director of Public Health. Such plans shall show all dimensions, reinforcing, structural details and other pertinent data as may be required. Approval may not be construed or used in any manner to imply endorsement of a product by the department. Upon approval by the Director, the plans will be assigned an official number. Plans shall also be submitted for individual built-in-place septic tanks.
- B. No pre-cast septic tank shall be installed on a commercial basis except those which have been clearly and legibly marked on the upper surface of the lid showing the number assigned by the Director.
- C. No metal septic tanks shall be manufactured or sold for installation or installed in areas under the jurisdiction of the department except those which comply with the current Commercial Standards of the U.S. Department of Commerce and carry the label of Underwriters Laboratories.

- D. All septic tank systems, whether they are installed singly, in series or in a divided system, must be designed according to waste load and in no case shall have a total capacity of less than 900 gallons, except by written permission of the Director of Public Health.

Minimum Capacities for Septic Tanks

Number of Bedrooms	Minimum Liquid Capacity Below Outlet Invert (Gallons)
3 or less	900
4.....	1,000
Each additional bedroom, add.....	250

- E. No septic tank or septic tank compartment may be installed in areas under the jurisdiction of this department which has less than 250 gallons liquid capacity.
1. When the anticipated daily waste load is more than 500 gallons, but not more than 1,500 gallons, the minimum liquid capacity of the tank shall be one and one-half times the anticipated load.
 2. When the anticipated daily waste load is more than 1,500 gallons the minimum liquid capacity of the tank shall be 75 percent of the anticipated load plus 1,125 gallons.
 3. The liquid depth of any tank or compartment thereof shall not be less than 48 inches nor shall a liquid depth greater than seventy-two inches be considered in determining septic tank capacity.
 4. After August 1, 1973, all septic tanks installed shall have a minimum of two compartments or the equivalent.
 5. When multi-compartment tanks or two or more tanks in series are used, the primary compartment or tank shall not have a liquid capacity of less than 600 gallons or less than two-thirds of total liquid capacity, whichever is greater.
 6. The minimum liquid capacity of a tank receiving intermittent use shall be determined from the maximum expected daily waste load.
 7. When the anticipated daily waste load is more than 14,500 gallons, a disposal system other than septic tank and drainfield shall be employed.
 8. The connection of a guest house, mobile home or garage apartment to a system designed for a single family residence shall not be permitted.

E. Construction: No septic tank may be manufactured or sold for installation, or installed which does not comply with the following standards:

1. Septic tanks shall be constructed of sound and durable material not subject to excessive corrosion or deterioration and shall be watertight and constructed to prevent the entrance of rain water, surface drainage or ground water.
2. Septic tanks must be provided with a manhole (minimum dimension - 18 inches) or removable cover for each compartment for septic tank inspection and sludge removal, the inlet and outlet devices shall have removable covers or properly placed manholes with a minimum diameter of 6 inches, and the manhole cover or inlet and outlet covers shall have adequate handles.
3. In each septic tank or septic tank compartment, the inlet baffle or submerged pipe shall extend approximately six inches below the liquid surface and above the liquid surface at least to the crown of the inlet sewer.
4. In each septic tank or septic tank compartment, the outlet baffle or submerged pipe shall extend below the liquid level a distance approximately equal to 28% to 40% of the liquid depth, and these baffles or pipes shall extend at least 6 inches above the liquid level to provide for scum storage.
5. Septic tanks shall have at least one inch between the under side of the top of the tank and top of inlet and outlet pipe or baffles to allow the required ventilation of the tank and disposal field through the main building vent stacks.
6. The invert of the inlet pipe in each septic tank or septic tank compartment must be at least three inches above the outlet invert.

G. Location of Septic Tank

1. No septic tank shall be located closer than five feet to a building line or property line.
2. No septic tank shall be located under paving unless the manhole and inspection holes are extended up through the paving and the manhole is equipped with a locking-type cover.
3. No septic tank manhole shall be located more than 24 inches below the finished grade.
4. No septic tank or other receptacle for human excrement shall be constructed, maintained, or used which directly or indirectly discharges upon the surface of the ground, or into any waters of the state either directly or indirectly, unless the contents of such sewage waste disposal system or receptacle for human excrement are subjected to some recognized treatment approved by the Seattle-King County Department of Public Health.

SECTION 3. DISTRIBUTION OF EFFLUENT.

- A. No sewage waste disposal system shall be constructed or installed which does not provide at the head of each disposal field of 100 feet or more in total length, a distribution box of sufficient size to accommodate the field lateral lines. There shall be at least two lines.
- B. No distribution box shall be manufactured, sold or installed which is not constructed of durable, watertight materials and which is not equipped with an adequate removable cover.
- C. No distribution box shall be installed which does not provide equal flow of effluent to all outlets. The distribution box shall be set on stable soil or otherwise supported to prevent misalignment.
- D. No distribution box shall be constructed or installed wherein the inlet invert is less than one inch above the level of the outlet inverts, nor shall the outlet inverts be less than two inches above the floor of the distribution box.
- E. No distribution box shall be installed which does not provide at least 30 inches of four-inch tightline from each outlet. There shall be no filter material within 36 inches of the distribution box.
- F. No pump, siphon or other effluent lifting or dosing device shall be installed which is not approved by the Seattle-King County Department of Public Health.

SECTION 4. SUBSURFACE DISPOSAL FIELD.

- A. No subsurface field of 100 feet or more in total length shall be installed unless each field lateral line is connected separately to a distribution box or any lines be subdivided unless the effluent is forced into the lines by means of pumps or other devices which have been individually approved in writing by the Director.
- B. No disposal field shall be constructed unless there has first been actual percolation tests conducted on the site and in a manner as described elsewhere to determine the required length of tile field.
- C. No disposal field of more than 500 feet in total length shall be installed which is not a part of a dosing-type system.
- D. No disposal field of more than 1,000 feet in total length shall be installed which is not provided with two dosing devices, each serving one-half of the disposal field.
- E. No system of effluent distribution using pumps or other dosing devices shall be permitted which does not limit the dosage at each pumping interval to a maximum of 75% and a minimum of 60% of the capacity of the draintile, nor shall such dosages exceed a time interval of ten minutes.

F. No disposal field shall be installed in which all trenches are not of the same approximate length.

G. No disposal field shall be installed or located which does not comply with the following standards. All of the following clearance minimums shall be measured from the center of the trench:

1. Minimum distance from building foundations shall be not less than ten feet.
2. Minimum distance from the septic tank and property lines shall be not less than five feet.
3. Minimum distance from lakes, rivers, creeks, streams*, or wells shall not be less than one hundred feet.**
4. Minimum distance from public bathing areas shall be 100 feet on either salt or fresh water.**
5. Minimum distance from salt water shall be fifty feet.**
6. Maximum length of individual lines shall not exceed 100 feet unless effluent is forced into the lines by means of siphoning or pumping devices.
7. Minimum bottom width of trenches shall be 24 inches. Trench width in excess of 24 inches may not be used in computation of absorption area except by permission of the Director.
8. Minimum depth of not less than one foot of permeable soil below bottom of trench.
9. Minimum grade of the bottom of drainfield trenches and drainfield lines shall not be less than 2 inches per 100 feet.
10. Maximum grade of the bottom of drainfield trenches and drainfield lines shall not exceed six inches per 100 feet.
11. Maximum depth of cover over drainfield lines including the two inches of filter material shall not exceed 24 inches except by special permission of the Director.
12. Minimum depth of cover over filter material shall not be less than six inches.

*NOTE: A stream is considered to be any open flow of water in channels, trenches or ditches which discharges to a creek, river, lake or other State waters and which has a continuous flow during the months of June through August.

**NOTE: If, in the judgment of the Director, the minimum distance is not sufficient to prevent pollution of the lake, river, creek, stream, bathing beach or well, a greater set back may be required. The opinion of the Director shall be put in writing and given to the parties concerned.

13. Minimum depth of filter material under drainfield lines shall be not less than six inches.
 14. Minimum distance from interceptor drains, footing drains, cut banks or open ditches shall not be less than 15 feet. Where the bottom of such drain, or bank, or ditch is below the level of the drainfield trench, sufficient distance shall be maintained to prevent effluent from surfacing or polluting such drains or ditches.
 15. The amount of filter material over drainfield lines shall be not less than two inches.
 16. Filter material shall be washed gravel - size 3/8 inch to 1 1/2 inches.
 17. Minimum distance between drainfield lines shall be not less than six feet except that whenever average percolation rates exceed 10 min/inch, the minimum distance between tile lines shall be eight feet.
 18. Minimum diameter of disposal drainfield shall be not less than four inches.
 19. Minimum width of open joints between lengths of tiles shall be not less than 1/4 inch, nor more than 1/2 inch.
- H. No disposal field shall be installed unless all open joints are protected, on top, by strips of asphalt-treated building paper at least ten inches long and three inches wide.
- I. No disposal field shall be installed unless all bends and one length of tile at each end of the bend are rigidly cemented together.
- J. No disposal field shall be installed unless grade boards set securely staked in the bottom of the trench, shall be provided for the full length of all drainfield lines in the center of the trench.
- K. No disposal field shall be installed which requires a change in grade and earth cover unless terracing is affected by the construction of a suitable brick or concrete drop box or by use of bell tile with cemented or rubber joints. Such installation shall have an earth dam 24 inches thick preceding terracing.
- L. No disposal system shall be installed unless the pipe lines between the septic tank and the distribution box, under paved areas, and within ten feet of any buildings, shall be constructed of vitrified-clay, concrete, plastic, or cast-iron pipe laid with water-tight joints which complies with current standards of the U.S. Department of Commerce, or asbestos-cement approved by Seattle-King County Department of Public Health.
- M. No disposal field shall be installed which, after installation of the gravel over the tile, is not then covered with newspapers, shavings or other suitable material before backfilling.

- N. No disposal field shall be constructed, maintained, or used which directly or indirectly discharges upon the surface of the ground, or into any waters of the State either directly or indirectly unless the effluent from such disposal field is subjected to some recognized treatment approved by the Seattle-King County Department of Public Health.
- O. No disposal field shall be installed under driveways, roadways, paved areas or under areas subject to vehicular traffic except by permission of the Director.
- P. No disposal field and septic tank system shall be constructed, maintained or used wherein the plumbing fixtures draining to the system are not supplied with water under pressure from an approved source. If water is to be provided from a private well a recorded protective covenant shall be required prohibiting, within 100 feet of the well, any of the following: cesspools, sewers, privies, septic tanks, drainfields, or any other receptacles for the disposal of sewage.
- Q. Drainfield lines within five feet of a water line shall be closed joint without filter material.
- R. Pipe used for construction of drainfield lines shall be a minimum of 4 inches inside diameter and constructed of vitreous clay, concrete, or plastic approved by Seattle-King County Department of Public Health.
- S. After the plumbing stub-out has been installed and prior to the installation of the sewage disposal system, the designer shall inspect the site to determine compatibility with his original design criteria. Before an installation permit will be issued, the Health Department shall be notified by the designer that the pre-installation inspection is acceptable. In the event the sewage disposal system must be installed prior to construction of the building, waiver of the plumbing stub-out requirement may be made.

SECTION 5. AS-BUILT PLANS.

Whenever a designer or engineer is notified by an installer or owner that a system is completely installed, the designer shall immediately notify the Health Department. A completely scaled and dimensioned as-built plan of the approved sewage disposal system shall be prepared in triplicate by the designer of the system on forms provided by the Director. These forms shall then be signed by the designer and within ten days all three copies shall be forwarded with one copy of the Sewage Disposal Permit to the Director of Public Health. Whenever a designer or engineer disapproves a system, he shall immediately notify the Health Department in writing or by calling the district sanitarian or supervisor involved.

Page 7a.

The following plan details will be required:

1. Location of the essential components of the sewage disposal system including all plumbing stub outlets, closed-joint tile between building and septic tank, closed-joint tile between septic tank and distribution box, the distribution box, and all drainfield lines. The length of each individual drainfield line shall be shown as well as the total number of lineal feet of drainfield line. The location of any unusual construction features such as drops (in the drainfield lines) must be clearly indicated and distances between any drainfield lines and the edges of any cuts, banks, terraces, foundations, property lines, lakes, streams, wells, driveways, waterlines, walks or fills shall be given in feet.

2. Location, size, shape, and placement of the building on the building site showing its relations to the sewage disposal system and to any easements, underground oil storage tanks, water service supply lines, and property lines.
3. Location, direction of flow, and discharge point of all ground or surface water interception drains.
4. Orientation of drawing with north direction by arrow.
5. Clearly indicated scale. Recommended scale is one inch equals twenty feet. Scales utilizing ratios in excess of one inch equals thirty feet are not acceptable.
6. The relative elevations of the plumbing stub outlet, the outlet invert of the septic tank, the outlet inverts of the distribution box, and the finished ground grade of the drainfield area may be required at the discretion of the Director of Public Health.

SECTION 6. PERCOLATION TEST AND SOIL LOG INSTRUCTIONS.

REQUIREMENTS FOR INDIVIDUAL SEWAGE DISPOSAL SYSTEMS*

Soil Log:

1. A log of the soils must be submitted which will show soil types encountered in the drainfield at least one foot below the level of the bottom of the proposed drainfield trench or a minimum of four feet below the final grade, whichever is deeper. The log must describe soil type and depth of each type. Classification may be in general terms such as loose sand, cemented sand, sandy silt, silt clay, silt, clay hardpan, claypan, rock, etc., or classification may be in specific terms such as "Alderwood gravelly loam" or "Buckley clay loam" as described in U. S. Department of Agriculture soil map.
2. Soil logs for single family residences must be made from two or more testholes located in representative parts of the drainfield area and must be separated by at least 20 feet. The size of the hole is relatively unimportant, but should be of sufficient diameter for the observer to obtain representative samples from the soil profile and determine color, texture, structure, and, in addition, elevation of water table if it is encountered. Drainfield areas larger than for single family residences must have at least one soil log for every 1,500 square feet and in no case shall there be less than two soil logs.

* A single family dwelling is a three bedroom home with a maximum of six permanent occupants. (Add 1/3 more drainfield for each additional bedroom.)

No lot shall be accepted that is not sufficiently large for a 50% drainfield reserve area.

3. Requirements for approval include a minimum depth in the drainfield of four feet of permeable soil overlying any impermeable layer, any cemented layer or overlying the ground water table, or the elevation of ground water during the wet season. Where conditions permit this minimum depth may be attained with the use of permeable cover material not to exceed 18 inches: provided, under no condition shall there be less than 30 inches of original permeable soil overlying any impermeable layer or ground water table and in no case shall a system be designed wherein the drainfield or filter material is located in the cover material. The approval of a site using fill can only be made by the Board of Review.

Percolation Tests

4. Number and location of Tests: A minimum of three percolation tests, in addition to the soil log holes, and more if needed, to reveal representative conditions, shall be made in separate test holes spaced uniformly over the proposed drainfield site. Drainfield areas larger than for single family residences must have at least one percolation test on every 1,500 square feet and in no case shall there be less than 3 percolation tests. Percolation tests shall be run in the existing undisturbed soil and shall not be less than 18 inches deep in the actual drainfield area.
5. Type of Test Hole: Dig or bore the holes with horizontal dimensions of from 4 to 12 inches, and vertical sides to the depth of the proposed absorption trench.
6. Preparation of the Test Hole: Carefully scratch the bottom and sides of the hole in order to remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate. Remove all loose material from the hole. Add two inches of coarse washed sand or fine gravel to protect the bottom from scouring and sediment.
7. Saturation and Swelling of the Soil: Fill the hole with clear water to a minimum depth of 12 inches over the gravel. Keep water in the hole, by re-filling if necessary, for at least four hours and preferably overnight. If soil, other than loose sand, has a dry appearance when hole is initially dug, soil must be allowed to swell overnight after soaking period to permit it to approach the condition it will be in when system is operating. If soil was initially wet to saturation, proceed as in Item 8 after the four hours of soaking.
8. Percolation Rate Measurement: After saturating the soil and permitting it to swell, adjust depth of water in the test hole to 6 inches over the gravel. From a fixed reference point, measure the drop in water level over a 30 minute period, refilling 6 inches over the gravel if necessary. This drop in 30 minutes is used to calculate the percolation rate (time required in minutes for water to fall one inch).

9. Where there is evidence of high winter water table, the Director of Public Health can require the percolation tests be performed and submitted during December, January, February and March.
10. Where poor soil conditions exist soil investigations and percolation studies may be accepted only if performed with a representative of the Health Department present. The amount of investigation and the number of percolation tests and soil logs necessary to yield representative information will be determined by the Director.
11. Percolation Rate and Required Absorption Area for Single Family Dwellings.*

AVERAGE PERCOLATION
RATE IN MIN/INCH

LINEAL FEET
2 FOOT WIDE TRENCH

	<u>4Ft. Original Permeable Soil Available</u>	<u>Less than 4Ft. Original Permeable Soil Available</u>
2 or less.....	130.....	170
3.....	150.....	190
4.....	175.....	230
5.....	190.....	250
6.....	205.....	270
7.....	220.....	290
8.....	225.....	297
9.....	237.....	313
10.....	250.....	330
11.....	256.....	340
12.....	265.....	350
13.....	273.....	360
14.....	278.....	367
15.....	285.....	375

When the average percolation rate exceeds 15 minutes per inch, special permission must be obtained from the Director of Public Health before property may be developed with the use of a septic tank system.

- * A single family dwelling is a three bedroom home with a maximum of six permanent occupants. (Add 1/3 more drainfield for each additional bedroom.)

No lot shall be accepted that is not sufficiently large for a 50% drainfield reserve area.

12. Percolation Rate and Required Absorption Area for Commercial Buildings:

A. Obtain daily flow estimate by one of the following methods:

1. Determine average water meter readings from similar establishments and add a minimum safety factor of 25 percent, if not listed on page 11.
2. Use the figures given in the table on page 11. Then refer to table on page 12 for rate of sewage application in gal/sq. ft./day.

Type of Establishment	Gallons Per Person Per Day
Multiple Family Dwellings (per person - 2 per bedroom)	100
Factories, Office Buildings, etc. (add 100 gallons/day for each utility sink per shift)	35
Restaurants (estimate patrons per day and add number of employees)	15
Taverns	15
Mobile Home Parks (figure minimum of 3 persons per lot) independent	100
Mobile Home Parks (figure minimum of 3 persons per lot) dependent	50
Resort Camps (night and day) with limited plumbing	35
Luxury Camps	50
Work or Construction Camps	50
Day Camps (no meals served)	10
Swimming Pools and Bathhouse (Sanitary facilities only)	10
Clubhouse (per resident member)	100
Clubhouse (per non-resident member with kitchen)	50
Clubhouses (per non-resident member without kitchen)	50
Motels (figure 2 persons per bed space)	50
Drive-In Theaters (per car space)	10
Theaters (per auditorium seat)	5
Airports (per passenger)	5
Retail Stores (per toilet room for customer use)	400
Retail Stores (per employee per shift - add 100 gallons/day for each utility sink)	35
Service Stations (per vehicle served)	10
Church without kitchen (Seating Capacity)	5
Church with kitchen (seating capacity)	15
Travel Trailer Parks (without sewer and water hookups- with central toilets and showers - per space)	50
Travel Trailer Parks (with sewer and water hookups- with central toilet and showers - per space)	100
Boarding House	50
Campground (with central comfort station - with flush toilets and showers - per space)	50
Campground (with central comfort station - without showers - per space)	25
Picnic Parks (flush toilets only - per person)	5
Picnic Parks (with flush toilets - bathhouse and showers - per person)	10

The use of septic tank systems for Schools, Hospitals, Laundries, and other large volume establishments shall not be permitted, except by special permission of the Director.

B. For Commercial Buildings, use the following table:

Percolation Rate (Time in minutes
for water to fall one inch)

Maximum rate of sewage application
(gallons per square foot of
absorption area per day)

2 or less.....	3.5
3.....	2.9
4.....	2.5
5.....	2.2
10.....	1.6
15.....	1.3

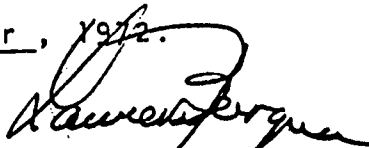
NOTE: A minimum of 200 square feet of absorption area is required in all commercial systems with trench widths greater than 24 inches excluded from computation of the total absorption except by special permission of the Director.

See Item 11 for percolation rates over 15 minutes per inch.

Add 30% more drainfield when less than 48 inches of original permeable soil is available.

These Rules and Regulations shall be effective as of October 1, 1972 and shall supersede Rules and Regulations for Construction and Installation of Sewage Waste Disposal Systems adopted October, 1971, which are hereby revoked.

Adopted this 22nd day of September, 1972.


Lawrence Bergner, M.D., M.P.H.
Director of Public Health
Seattle-King County Department of
Public Health

NEW.

SEATTLE-KING COUNTY DEPARTMENT OF PUBLIC HEALTH
RULES AND REGULATIONS FOR CONSTRUCTION AND INSTALLATION
OF SEWAGE WASTE DISPOSAL SYSTEMS

Revised October, 1971

King County Ordinance #931
Seattle Ordinance Number 90181

SECTION 1. BUILDING SEWER.

- A. Pipe used for construction for a building sewer beyond the building plumbing shall be a minimum of four inches inside diameter and of cast-iron, vitrified-clay, concrete or plastic which complies with the current U. S. Department of Commerce Commercial Standards for the particular pipe involved or of asbestos-cement or plastic approved by the Seattle-King County Department of Public Health.
- B. Construction of the building sewer line shall be such as to secure water-tight joints and it shall be on a grade of not less than 1/8 inch per foot.
- C. No T's or 90-degree ells shall be permitted in the building sewer line and all 45-degree ells shall have accessible cleanouts.
- D. Building sewers of 4-inch diameter shall have cleanouts installed at intervals of not more than 50 feet and sewers of 6-inch diameter and larger shall have cleanouts installed at intervals of not more than 100 feet.

SECTION 2. SEPTIC TANK.

- A. Before septic tanks or grease traps may be manufactured, constructed or sold on a commercial basis for installation in areas under the jurisdiction of the department, plans must be submitted and approved by the Director of Public Health. Such plans shall show all dimensions, reinforcing, structural details and other pertinent data as may be required. Approval may not be construed or used in any manner to imply endorsement of a product by the department. Upon approval by the Director, the plans will be assigned an official number. Plans shall also be submitted for individual, built-in-place septic tanks.
- B. No pre-cast septic tank shall be installed on a commercial basis except those which have been clearly and legibly marked on the upper surface of the lid showing the number assigned by the Director.
- C. No metal septic tanks shall be manufactured or sold for installation or installed in areas under the jurisdiction of the department except those which comply with the current Commercial Standards of the U. S. Department of Commerce and carry the label of Underwriters Laboratories.

- D. Liquid Capacity: Septic tanks installed for single family residential or commercial use, whether they are installed singly, in series or in a divided system, must be designed according to waste load and in no case shall have a total capacity of less than 900 gallons except by written permission of the Director of Public Health.
- E. No septic tank or septic tank compartment may be installed in areas under the jurisdiction of this department which has less than 250 gallons liquid capacity.
1. When the anticipated daily waste load is more than 500 gallons, but not more than 1,500 gallons, the minimum liquid capacity of the tank shall be one and one-half times the anticipated load.
 2. When the anticipated daily waste load is more than 1,500 gallons the minimum liquid capacity of the tank shall be 75 percent of the anticipated load plus 1,125 gallons.
 3. The liquid depth of any tank or compartment thereof shall be not less than 48 inches nor shall a liquid depth greater than seventy-two inches be considered in determining septic tank capacity.
 4. Septic tanks with a liquid capacity of more than 1,000 gallons shall have at least two compartments.
 5. When multi-compartment tanks or two or more tanks in series are used, the primary compartment or tank shall not have a liquid capacity of less than 500 gallons or less than two-thirds of total liquid capacity, whichever is greater.
 6. The minimum liquid capacity of a tank receiving intermittent use shall be determined from the maximum expected daily waste load.
 7. When the anticipated daily waste load is more than 14,500 gallons, a disposal system other than septic tank and drainfield shall be employed.
 8. The connection of a guest house, trailer or garage apartment to a system designed for a single family residence shall not be permitted.
- F. Construction: No septic tank may be manufactured or sold for installation, or installed which does not comply with the following standards:
1. Septic tanks shall be constructed of sound and durable material not subject to excessive corrosion or deterioration and shall be watertight and constructed to prevent the entrance of rain water, surface drainage or ground water.
 2. Septic tanks must be provided with a manhole (minimum dimension - 18 inches) or removable cover for each compartment for septic tank inspection and sludge removal, the inlet and outlet devices shall have removable covers or properly placed manholes with a minimum diameter of 6 inches, and the manhole cover or inlet and outlet covers shall have adequate handles.

3. In each septic tank or septic tank compartment, the inlet baffle or submerged pipe shall extend approximately six inches below the liquid surface and above the liquid surface at least to the crown of the inlet sewer.
4. In each septic tank or septic tank compartment, the outlet baffle or submerged pipe shall extend below the liquid level a distance approximately equal to 28% to 40% of the liquid depth, and these baffles or pipes shall extend at least 6 inches above the liquid level to provide for scum storage.
5. Septic tanks shall have at least one inch between the under side of the top of the tank and top of inlet and outlet pipe or baffles to allow the required ventilation of the tank and disposal field through the main building vent stacks.
6. The invert of the inlet pipe in each septic tank or septic tank compartment must be at least three inches above the outlet invert.

G. Location of Septic Tank

1. No septic tank shall be located closer than five feet to a building line or property line.
2. No septic tank shall be located under paving unless the manhole and inspection holes are extended up through the paving and the manhole is equipped with a locking-type cover.
3. No septic tank manhole shall be located more than 24 inches below the finished grade.
4. No septic tank or other receptacle for human excrement shall be constructed, maintained, or used which directly or indirectly discharges upon the surface of the ground, or into any waters of the state either directly or indirectly, unless the contents of such sewage waste disposal system or receptacle for human excrement are subjected to some recognized treatment approved by the Seattle-King County Department of Public Health.

SECTION 3. DISTRIBUTION OF EFFLUENT.

- A. No sewage waste disposal system shall be constructed or installed which does not provide at the head of each disposal field of 100 feet or more in total length, a distribution box of sufficient size to accommodate the field lateral lines. There shall be at least two lines.
- B. No distribution box shall be manufactured, sold or installed which is not constructed of durable, watertight materials and which is not equipped with an adequate removable cover.

- C. No distribution box shall be installed which does not provide equal flow of effluent to all outlets. The distribution box shall be set on stable soil or otherwise supported to prevent misalignment.
- D. No distribution box shall be constructed or installed wherein the inlet invert is less than one inch above the level of the outlet inverts, nor shall the outlet inverts be less than two inches above the floor of the distribution box.
- E. No distribution box shall be installed which does not provide at least 30 inches of four-inch tightline from each outlet. There shall be no filter material within 36 inches of the distribution box.
- F. No pump, siphon or other effluent lifting or dosing device shall be installed which is not approved by the Seattle-King County Department of Public Health.

SECTION 4. SUBSURFACE DISPOSAL FIELD.

- A. No subsurface field of 100 feet or more in total length shall be installed unless each field lateral line is connected separately to a distribution box nor any lines be subdivided unless the effluent is forced into the lines by means of pumps or other devices which have been individually approved in writing by the Director.
- B. No disposal field shall be constructed unless there has first been actual percolation tests conducted on the site and in a manner as described elsewhere to determine the required length of tile field.
- C. No disposal field of more than 500 feet in total length shall be installed which is not a part of a dosing-type system.
- D. No disposal field of more than 1,000 feet in total length shall be installed which is not provided with two dosing devices, each serving one-half of the disposal field.
- E. No system of effluent distribution using pumps or other dosing devices shall be permitted which does not limit the dosage at each pumping interval to a maximum of 75% and a minimum of 60% of the capacity of the draintile, nor shall such dosages exceed a time interval of ten minutes.
- F. No disposal field shall be installed in which all trenches are not of the same approximate length.
- G. No disposal field shall be installed or located which does not comply with the following standards. All of the following clearance minimums shall be measured from the nearest edge of the trench except #17, which shall be measured between the drainfield lines.

1. Minimum distance from building foundations shall be not less than ten feet.
2. Minimum distance from the septic tank and property lines shall be not less than five feet.
3. Minimum distance from lakes, rivers, creeks, streams*, or wells shall not be less than one hundred feet.**
4. Minimum distance from public bathing areas shall be 100 feet on either salt or fresh water.**
5. Minimum distance from salt water shall be fifty feet.**
6. Maximum length of individual lines shall not exceed 100 feet unless effluent is forced into the lines by means of siphoning or pumping devices.
7. Minimum bottom width of trenches shall be 24 inches. Trench width in excess of 24 inches may not be used in computation of absorption area except by permission of the Director.
8. Minimum depth of not less than one foot of permeable soil below bottom of trench.

*NOTE: A stream is considered to be any open flow of water in channels, trenches or ditches which discharges to a creek, river, lake or other State waters.

**NOTE: If, in the judgment of the Director, the minimum distance is not sufficient to prevent pollution of the lake, river, creek, stream, bathing beach or well, a greater set back may be required.

9. Minimum grade of the bottom of drainfield trenches and drainfield lines shall not be less than 2 inches per 100 feet.
10. Maximum grade of the bottom of drainfield trenches and drainfield lines shall not exceed six inches per 100 feet.
11. Maximum depth of cover over drainfield lines including the two inches of filter material shall not exceed 24 inches except by special permission of the Director.
12. Minimum depth of cover over filter material shall not be less than six inches.
13. Minimum depth of filter material under drainfield lines shall be not less than six inches.
14. Minimum distance from interceptor drains, footing drains, cut banks or open ditches shall not be less than 15 feet. Where the bottom of such drain, or bank, or ditch is below the level of the drainfield trench, sufficient distance shall be maintained to prevent effluent from surfacing or polluting such drains or ditches.

15. The amount of filter material over drainfield lines shall be not less than two inches.
 16. Filter material shall be washed gravel - size $\frac{3}{8}$ inch to $1\frac{1}{2}$ inches.
 17. Minimum distance between drainfield lines shall be not less than six feet except that whenever average percolation rates exceed 10 min/inch, the minimum distance between tile lines shall be eight feet.
 18. Minimum diameter of disposal drainfield shall be not less than four inches.
 19. Minimum width of open joints between lengths of tiles shall be not less than $\frac{1}{4}$ inch, nor more than $\frac{1}{2}$ inch.
- H. No disposal field shall be installed unless all open joints are protected, on top, by strips of asphalt-treated building paper at least ten inches long and three inches wide.
- I. No disposal field shall be installed unless all bends and one length of tile at each end of the bend are rigidly cemented together.
- J. No disposal field shall be installed unless grade boards set straight and true, securely staked in the bottom of the trench, shall be provided for the full length of all drainfield lines in the center of the trench.
- K. No disposal field shall be installed which requires a change in grade and earth cover unless terracing is affected by the construction of a suitable brick or concrete drop box or by use of bell tile with cemented or rubber joints. Such installation shall have an earth dam 24 inches thick preceding terracing.
- L. No disposal system shall be installed unless the pipe lines between the septic tank and the distribution box, under paved areas, and within ten feet of any buildings, shall be constructed of vitrified-clay, concrete, plastic, or cast-iron pipe laid with water-tight joints which complies with current standards of the U. S. Department of Commerce, or asbestos-cement approved by Seattle-King County Department of Public Health.
- M. No disposal field shall be installed which, after installation of the gravel over the tile, is not then covered with newspapers, shavings or other suitable material before backfilling.
- N. No disposal field shall be constructed, maintained, or used which directly or indirectly discharges upon the surface of the ground, or into any waters of the State either directly or indirectly unless the effluent from such disposal field is subjected to some recognized treatment approved by the Seattle-King County Department of Public Health.
- O. No disposal field shall be installed under driveways, roadways, paved areas or under areas subject to vehicular traffic except by permission of the Director.

- P. No disposal field and septic tank system shall be constructed, maintained or used wherein the plumbing fixtures draining to the system are not supplied with water under pressure from an approved source. If water is to be provided from a private well, a recorded protective covenant shall be required prohibiting, within 100 feet of the well, any of the following: cesspools, sewers, privies, septic tanks, drainfields, or any other receptacles for the disposal of sewage.
- Q. Drainfield lines within five feet of a water line shall be closed joint without filter material.
- R. Pipe used for construction of drainfield lines shall be a minimum of 4 inches inside diameter and constructed of vitreous clay, concrete, or plastic approved by Seattle-King County Department of Public Health.

SECTION 5. AS-BUILT PLANS.

Whenever a designer or engineer is notified by an installer or owner that a system is completely installed, the designer shall immediately notify the Health Department. A completely scaled and dimensioned as-built plan of the approved sewage disposal system shall be prepared in triplicate by the designer of the system on forms provided by the Director. These forms shall then be signed by the designer and within ten days all three copies shall be forwarded with one copy of the Sewage Disposal Permit to the Director of Public Health. Whenever a designer or engineer disapproves a system, he shall immediately notify the Health Department in writing or by calling the district sanitarian or supervisor involved.

The following plan details will be required.

1. Location of the essential components of the sewage disposal system including all plumbing stub outlets, closed-joint tile between building and septic tank, septic tank, closed-joint tile between septic tank and distribution box, distribution box, and all drainfield lines. The length of each individual drainfield line shall be shown as well as the total number of lineal feet of drainfield line. The location of any unusual construction features such as drops (in the drainfield lines) must be clearly indicated and distances between any drainfield lines and the edges of any cuts, banks, terraces, foundations, property lines, lakes, streams, wells, driveways, waterlines, walks or fills, shall be given in feet.
2. Location, size, shape, and placement of the building on the building site showing its relation to the sewage disposal system and to any easements, underground oil storage tanks, water service supply lines, and property lines.
3. Location, direction of flow, and discharge point of all ground or surface water interception drains.
4. Orientation of drawing with north direction by arrow.

5. Clearly indicated scale. Recommended scale is one inch equals twenty feet. Scales utilizing ratios in excess of one inch equals thirty feet are not acceptable.
6. The relative elevations of the plumbing stub outlet, the outlet invert of the septic tank, the outlet inverts of the distribution box, and the finished ground grade of the drainfield area may be required at the discretion of the Director of Public Health.

SECTION 6. PERCOLATION TEST AND SOIL LOG INSTRUCTIONS.

REQUIREMENTS FOR INDIVIDUAL SEWAGE DISPOSAL SYSTEMS*

Soil Log:

1. A log of the soils must be submitted which will show soil types encountered in the drainfield at least one foot below the level of the bottom of the proposed drainfield trench or a minimum of four feet below the final grade, whichever is deeper. The log must describe soil type and depth of each type. Classification may be in general terms such as loose sand, cemented sand, sandy silt, silt clay, silt, clay hardpan, claypan, rock etc. or classification may be in specific terms such as "Alderwood gravelly loam" or "Buckley clay loam" as described in U. S. Department of Agriculture soil map.
2. Soil logs for single family residences must be made from two or more testholes located in representative parts of the drainfield area and must be separated by at least 20 feet. The size of the hole is relatively unimportant, but should be of sufficient diameter for the observer to obtain representative samples from the soil profile and determine color, texture, structure, and, in addition, elevation of water table if it is encountered. Drainfield areas larger than for single family residences must have at least one soil log for every 1,500 square feet and in no case shall there be less than two soil logs.
3. Requirements for approval include a minimum depth in the drainfield of four feet of permeable soil overlying any impermeable layer, any cemented layer or overlying the ground water table, or the elevation of ground water during the wet season. Where conditions permit this minimum depth may be attained with the use of permeable cover material not to exceed 18 inches; provided, under no condition shall there be less than 30 inches of original permeable soil overlying any impermeable layer or ground water table and in no case shall a system be designed wherein the drainfield or filter material is located in the cover material.

Percolation Test:

4. Number and locations of Tests: A minimum of three percolation tests, in addition to the soil log holes, and more if needed, to reveal representative conditions, shall be made in separate test holes spaced uniformly over the proposed drainfield site. Drainfield areas larger than for

single family residences must have at least one percolation test on every 1,500 square feet and in no case shall there be less than 3 percolation tests. Percolation tests shall be run in the existing undisturbed soil and shall not be less than 18 inches deep in the actual drainfield area.

5. Type of Test Hole: Dig or bore the holes with horizontal dimensions of from 4 to 12 inches, and vertical sides to the depth of the proposed absorption trench.
6. Preparation of the Test Hole: Carefully scratch the bottom and sides of the hole in order to remove any smeared soil surfaces and to provide a natural soil interface into which water may percolate. Remove all loose material from the hole. Add two inches of coarse washed sand or fine gravel to protect the bottom from scouring and sediment.
7. Saturation and Swelling of the Soil: Fill the hole with clear water to a minimum depth of 12 inches over the gravel. Keep water in the hole, by re-filling if necessary, for at least four hours and preferably overnight. If soil, other than loose sand, has a dry appearance when hole is initially dug, soil must be allowed to swell overnight after soaking period to permit it to approach the condition it will be in when system is operating. If soil was initially wet to saturation, proceed as in Item 8 after the four hours of soaking.
8. Percolation Rate Measurement: After saturating the soil and permitting it to swell, adjust depth of water in the test hole to 6 inches over the gravel. From a fixed reference point, measure the drop in water level over a 30 minute period, refilling 6 inches over the gravel if necessary. This drop in 30 minutes is used to calculate the percolation rate (time required in minutes for water to fall one inch).
9. Where poor soil conditions prevail or where there is evidence of high winter water table, percolation tests may not be accepted except during the wet season.
10. Where generally poor soil conditions exist, the area may be designated a "Special Review Area," wherein soil investigations and percolation studies will be accepted only if performed with a representative of the Health Department present. The amount of investigation and the number of percolation tests and soil logs necessary to yield representative information will be determined by the department representative.
11. Percolation Rate and Required Absorption Area for Single Family Dwellings.*

Average Percolation Rate in Min/Inch	Lineal Feet 2 Foot Wide Trench
2 or less.....	130
3.....	150
4.....	175
5.....	190
6.....	210
7.....	230
8.....	240
9.....	250
10.....	265

When the average percolation rate exceeds 10 minutes per inch, special permission must be obtained from the Director of Public Health before property may be developed with the use of a septic tank system.

12. Percolation Rate and Required Absorption Area for Commercial Buildings.

A. Obtain daily flow estimate by one of the following methods:

1. Determine average water meter readings from similar establishments and add a minimum safety factor of 25 percent, if not listed on page 11.

2. Use the figures given in the table on page 11. Then refer to table on page 12 for rate of sewage application in gal/sq. ft./day.*

* The minimum size lot which may be developed with the use of a septic tank system shall be 9,600 square feet. On existing plats with lots smaller than 9,600 square feet, individual sewage disposal systems may be approved if the soil conditions are good and the percolation rate is 2 minutes per inch or less, and if the lot is large enough for expansion of the drainfield in case of failure, (to be determined by the Director). In no case shall any lot less than 7,200 square feet in area be developed with an individual sewage disposal system.

Type of Establishment	Gallons per Person per day
Multiple Family Dwellings (per person - 2 per bedroom)	100
Factories, Office Buildings, etc. (add 100 gallons/day for each utility sink per shift)	35
Restaurants (estimate patrons per day and add number of employees)	15
Taverns	15
Mobile Home Parks (figure minimum of 3 persons per lot) independent	100
Mobile Home Parks (figure minimum of 3 persons per lot) dependent	50
Resort Camps (night and day) with limited plumbing	35
Luxury Camps	50
Work or Construction Camps	50
Day Camps (no meals served)	10
Swimming Pools and Bathhouse (Sanitary facilities only)	10
Clubhouse (per resident member)	100
Clubhouse (per non-resident member with kitchen)	50
Clubhouses (per non-resident member without kitchen)	50
Motels (figure 2 persons per bed space)	50
Drive-In Theaters (per car space)	10
Theaters (per auditorium seat)	5
Airports (per passenger)	5
Retail Stores (per toilet room for customer use)	400
Retail Stores (per employee per shift - add 100 gallons/day for each utility sink)	35
Service Stations (per vehicle served)	10
Church without kitchen (Seating Capacity)	5
Church with kitchen (seating capacity)	15
Travel Trailer Parks (without sewer and water hookups- with central toilets and showers - per space)	50
Travel Trailer Parks (with sewer and water hookups- with central toilets and showers - per space)	100
Boarding House	50
Campground (with Central Comfort Station- with flush toilets and showers - per space)	50
Campground (with central comfort station- without showers - per space)	25
Picnic Parks (flush toilets only - per person)	5
Picnic Parks (with flush toilets - bathhouse and showers - per person)	10

The use of septic tank systems for Schools, Hospitals, Laundries, and other large volume establishments shall not be permitted, except by special permission of the Director.

B. For Commercial Buildings, use the following table:

Percolation Rate (Time in minutes for water to fall one inch)	Maximum rate of sewage application (gallons per square foot of absorption area per day)
2 or less.....	3.5
3.....	2.9
4.....	2.5
5.....	2.2
10.....	1.6

NOTE: A minimum of 200 square feet of absorption area is required in all commercial systems with trench widths greater than 24 inches excluded from computation of the total absorption except by special permission of the Director

(See Item 11 for percolation rates over 10 minutes per inch)

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Health shall then revoke the permit and it shall be unlawful to use such sewage disposal system.

2. When the work of constructing, installing or altering a sewage disposal system has been otherwise completed, it shall be left open and uncovered, and the owner shall be notified and he shall cause an inspection of such work and such system to be made by a designer.

3. If upon inspection by him following work on a sewage disposal system, a designer shall find that such work or system is not in accordance with this resolution, he shall so notify the owner who shall cause such changes in the work as are specified by the designer, and shall then again notify a designer that such work is ready for inspection.

4. When upon inspection by him following work on a sewage disposal system, a designer shall find that such work and system are in accordance with this resolution, he shall so certify to the Director of Public Health, and shall submit to the Director of Public Health with such certification, a detailed "as-built" drawing of such system.

Section 12. Approval.

1. Within a reasonable time after receipt of certification by a designer that work done on a private sewage disposal system, and such system, is in accordance with this resolution, the Director of Public Health shall approve or disapprove thereof.

2. If the Director of Public Health shall disapprove such work or system, he shall so notify the owner, stating his reasons for such disapproval, and it shall then be unlawful to use such system.

3. If the Director of Public Health shall finally approve such work and such system, he shall so notify the owner, and then such work shall be covered, and such system may be used.

Section 13. Maintenance. Sewage disposal systems shall be maintained in accordance with this resolution and the rules and regulations of the Director of Public Health adopted pursuant to this resolution, and no sewage disposal system shall be used which directly or indirectly discharges upon the surface of the ground or into any waters within the County unless the contents of such system have been subjected to approved purification and bactericidal treatment.

Section 14. Penalty. Anyone violating or failing to comply with this resolution, or any lawful rule of the Director of Public Health pursuant thereto, upon conviction thereof, shall be punished by a fine of not more than Three Hundred Dollars (\$300.00), or by imprisonment for not more than ninety (90) days, or by both such fine and imprisonment, and each day that anyone shall continue to violate or fail to comply with this resolution shall be a separate offense.

Section 15. Severability. Should any part of this resolution be declared unconstitutional or invalid for any reason, such declaration shall not affect the validity of the remainder.

Section 16. Repeal. Resolution No. 16801 relating to sewage disposal systems, as last amended by Resolutions No. 16992 and No. 19439, is hereby repealed.

Section 17. Effective Date. This Resolution shall be in full force and effect on and after same day. Passed this 17th day of July, 1961.

BOARD OF COUNTY COMMISSIONERS
KING COUNTY, WASHINGTON

ATTEST:
ROBERT A. MORRIS,
Clerk of the Board
By: Ralph R. Stender
(Seal) Deputy

Howard Odell
Chairman
Ed Munro

Hearing was had on petition for the withdrawal of territory from King County Water District No. 56 and, on motion of Mr. Munro, seconded by Mr. Odell, Resolution No. 22874 was passed adopting the Findings of Fact and declaring the territory withdrawn from said King County Water District No. 56.

RESOLUTION NO. 22874

WHEREAS, a petition for the withdrawal of territory from King County Water District No. 56 has heretofore been duly presented to the Commissioners of said Water District No. 56, who after due notice, conducted a hearing thereon, and adopted Findings of Fact and recommendations favoring the withdrawal of such territory and established and defined boundaries thereof, as hereinafter described, and

WHEREAS, said petition was duly transmitted to the Board of County Commissioners together with certified copy of said Findings of Fact and recommendations of the

ROBERT A. MORRIS
Clerk of Board
By: Ralph R. Stender
Seal Deputy

Ed Munro

BOARD OF COMMISSIONERS
KING COUNTY, WASHINGTON

Hearing was had for the purpose of considering the adoption of a resolution relating to the regulation of septic tank sewage disposal systems, which includes provisions for certification of sewage disposal designers and installers and, on motion of Mr. Munro, seconded by Mr. Odell, Resolution No. 22873 was passed regulating septic tank sewage disposal systems as set forth in this resolution.

RESOLUTION NO. 22873

A Resolution relating to and regulating sewage disposal systems providing for Certificates of Competency for Sewage Disposal System Designers and Sewage Disposal System Installers, requiring permits, defining offenses and providing penalties.

BE IT RESOLVED BY THE BOARD OF COUNTY COMMISSIONERS OF THE COUNTY OF KING, STATE OF WASHINGTON:

Section 1. Definitions: Certain words and phrases used in this ordinance, unless otherwise clearly indicated by their context, shall mean as follows:

APPROVED. Approved in writing by the Director of Public Health for King County.

County.

SANITARY DRAINAGE SYSTEM. The piping which conveys sewage from plumbing fixtures to a public sewer or private sewage disposal system.

SEWAGE. Any liquid or liquid borne waste from the ordinary living processes, liquid or liquid borne waste which contains animal or vegetable matter in suspension or solution, or liquid or liquid borne waste which may contain chemical in solution and which may be lawfully discharged into a public sanitary sewer.

SEWAGE DISPOSAL SYSTEM. Sanitary drainage systems, septic tanks, leaching pits surface and sub-surface leaching filter beds, and appurtenances; or other approved facilities for the disposal of sewage by means other than through a public sewer.

Section 2. Enforcement: The Director of Public Health shall enforce this resolution; he may adopt rules and regulations consistent with this resolution, and he may enter any building or premises at any reasonable time to perform any of the duties imposed on him by this resolution.

Section 3. Retroactivity: This resolution shall not apply to any work on a sewage disposal system for which a permit had been issued by the Director of Public Health, and which permit was valid and existing at the time of adoption of this resolution, but any such work shall be subject to applicable resolutions existing at the time such permit was issued.

Section 4. Designers Certificate.

1. It is unlawful to engage in business as a Sewage Disposal System Designer without a Sewage Disposal System Designers Certificate of Competency, as provided for in this resolution, or a State of Washington Sanitary or Civil Engineers License.

2. The fee for a Sewage Disposal System Designers Certificate of Competency shall be Twenty-Five Dollars (\$25.00) per year.

3. Application for a Sewage Disposal System Designers Certificate of Competency shall be made to the Director of Public Health, who may examine the applicant, and may deny the application if, in his judgment, the applicant is not qualified to design sewage disposal systems.

4. The Director of Public Health may suspend or revoke any Sewage Disposal System Designers Certificate of Competency if, after a hearing, he shall find incompetency, negligence, misrepresentation, or failure to comply with this resolution or the rules and regulations of the Director of Public Health adopted pursuant to this resolution.

5. Sewage Disposal System Designers Certificates of Competency shall expire December 31 of each year.

Section 5. Installers Certificate.

1. It is unlawful to engage in business as a Sewage Disposal System Installer without a Sewage Disposal System Installers Certificate of Competency.

2. The fee for a Sewage Disposal System Installers Certificate of Competency shall be Seventy-Five Dollars (\$75.00) per year.

3. Prior to the issuance of a commercial installers Certificate of Competency, the applicant must provide a surety bond approved as to form by the King County Prosecuting Attorney in the sum of One Thousand Dollars (\$1,000) running to King County, Washington, executed by a surety company authorized to do business in the State of Washington. The bond shall be conditioned that the holder of the Certificate of Competency and his agents in performing work governed by the resolution shall exercise all reasonable care and skill and shall fully comply with all provisions of this resolution to sewage disposal.

4. Application for a Sewage Disposal System Installers Certificate of Competency shall be made to the Director of Public Health, who may examine the applicant, and may deny the application if in his judgment the applicant is not qualified to install sewage disposal systems.

5. The Director of Public Health may suspend or revoke any Sewage Disposal System Installers Certificate of Competency if, after a hearing, he shall find incompetency, negligence, misrepresentation, or failure to comply with this ordinance or the rules and regulations of the Director of Public Health adopted pursuant to this ordinance.

6. Sewage Disposal System Installers Certificates of Competency shall expire December 31 of each year.

Section 6. Permits.

1. It is unlawful to construct, install or alter a sewage disposal system without a sewage disposal system permit. Such permit shall be posted on the building or premises where the work permitted is being done, and unless revoked, shall not be removed until such work has been finally approved by the Director of Public Health.

2. The fee for a sewage disposal system permit shall be Six Dollars (\$6.00) for such system serving a single family residence, or Twelve Dollars (\$12.00) for any other such system.

3. Application for a sewage disposal system permit shall be made to the Director of Public Health, who may deny the application if in his judgment the physical features of property on which it is proposed to locate the sewage disposal system, or the design of the proposed sewage disposal system, are not adequate for safe operation of such system.

4. Application for a sewage disposal system permit shall be supported by the following:

(a) A completely dimensioned plot plan, drawn to scale, showing direction of surface drainage, approximate slope, and other topographical features relevant to the design and installation of an adequate and efficient sewage disposal system.

(b) Construction plans and specifications.

(c) A log of soil formation and ground water level as determined by test holes in the proposed disposal field.

(d) A statement of absorption characteristics of the soil as determined by percolation tests made in the proposed disposal field.

(e) Such other information as the Director of Public Health may require.

Provided, however, that Paragraph 4, Items (A), (B), (C), and (D) are not applicable when application is made for a sewage disposal permit for repairs to an existing system.

5. Sewage disposal system permits shall expire one year from date of issue. Section 7. Where required. Every plumbing fixture and every sanitary drainage system not connected to a public sewer, or not required by law to be connected to a public sewer, shall be connected to a private sewage disposal system. Section 8. Location. Sewage Disposal systems shall be located on the same lot as the buildings they are designed to serve, or, if an easement therefor is obtained and recorded, on adjoining property if approved by the Director of Public Health.

Section 9. Design.

1. Sewage disposal systems shall be designed by a Sewage Disposal system Designer, certified as provided in this resolution, or by a Sanitary or Civil Engineer licensed by the State of Washington, except that a resident, or intended resident owner may personally design a system for his own single family residence. 2. Design of sewage disposal systems shall be such as to accommodate all sewage from the buildings and premises to be served, and in accordance with the rules and regulations of the Director of Public Health adopted pursuant to this resolution. The type of system shall be determined by location, soil porosity, ground water level and other relevant conditions.

Section 10. Installation and Alteration.

1. Sewage disposal systems shall be constructed, installed or altered only by a Sewage Disposal system Installer, certificated as provided in this resolution, except that a resident, or intended resident owner may personally construct, install or alter a system for his own single family residence. 2. Construction, installation or alteration of sewage disposal systems shall be such as to accommodate all sewage from the buildings and premises to be served, and in accordance with this resolution and the rules and regulations of the Director of Public Health adopted pursuant to this resolution. No downspout or footing drain shall be directly or indirectly connected to a sewage disposal system, and sewage disposal systems shall be so constructed and installed that surface water or ground water will not interfere with the operation of such systems.

Section 11. Inspection.

1. Any work done on a sewage disposal system, and any material used, may be inspected by the Director of Public Health at any reasonable time, and if he shall find that any work done, or material used, is not in accordance with this resolution or with the rules and regulations of the Director of Public Health adopted pursuant to this resolution he may revoke the permit for the work, or he may notify the owner or installer to make such changes in the work as he shall specify, and if such changes are not made within a reasonable time, the Director of Public